

Abstract

An apparatus for and method of developing laser therapies to eradicate or ablate one or more pathogens in periodontal tissues are disclosed. The apparatus comprises an adjustable laser source, that is preferably a Nd:YAG laser, for directing pulsed laser light to an area of a target comprising the one or more pathogens, such as *phorphyromonas gingivalis* (*Pg*) and *prevotella intermedia* (*Pi*) and/or a pigment fungi. The apparatus preferably comprises means for measuring the laser power provided to the target from the adjustable laser source and means for determining if exposed pathogens within the target have been eradicated or ablated. By identifying damage thresholds of laser doses, therapeutic protocols for treating periodontal tissues infected with the one or more pathogens are developed.